REMARKS

Formal Matters

Claims 8-25 are pending.

Claims 8-25 were examined and rejected. No claims were allowed.

Claims 8 and 21-23 are amended. The amendments to the claims were made solely in the interest of expediting prosecution, and are not to be construed as an acquiescence to any objection or rejection of any claim. Support for the amendments to the claims is found in the claims as originally filed, and throughout the specification, in particular at the following exemplary locations: page 3, lines 9-14; page 3, lines 6-11; page 4, lines 25-26; page 15, lines 14-20; page 7, lines 4-6 and page 8 lines 7-23.

No new matter is added by these amendments.

Applicants respectfully request reconsideration of the application in view of the amendments and remarks made herein.

PTO/SB/08A form

Applicants respectfully request that the Examiner initial and return the enclosed PTO/SB/08A form indicating that the information listed therein has been considered and made of record. A statement describing the contents of EP0440146A2 and the site of publication of the ATCC information is set forth in the attached PTO/SB/08A form. Copies of these references have been previously supplied to the Office, and, as such, are not supplied herewith.

Rejection of claims under 35 U.S.C. § 103(a)

Claims 8-20 are again rejected under 35 U.S.C. § 103(a) as unpatentable over Yang in view of Fearon, Rayner and Gonda. Specifically, the Office asserts that Yang's yeast random peptide two hybrid methods, in combination with Fearon's mammalian two-hybrid system, Rayner's retroviral vector cDNA library and Gonda's N-terminal glycine, render claims 8-20 unpatentable.

Without any intention to acquiesce to the correctness of the rejection and solely to expedite prosecution, the claims have been amended to recite screening for a cell exhibiting an altered phenotype due to an interaction between a test peptide and a cellular component *native* to the cell. The Applicants

respectfully submit that none of the cited references teach this feature, and, accordingly, this rejection may be withdrawn.

The primary references in this rejection are Yang and Fearon. Both of these references describe "two hybrid" assays which, as is well known in the art, are used for testing binding of two fusion proteins in a cell – neither of these fusion proteins is native to the cell employed in the assay, and, as a point of fact, neither is native to any cell by virtue of the fact that they are fusion proteins. In the case of Yang, the fusion proteins, which are expressed in a yeast host cell, are: a) a fusion protein having a Gal4 activation domain joined to the Rb protein, and b) a fusion protein having a Gal4 DNA binding domain joined to a test peptide. Similarly, Fearon describes expression of fusion proteins in a mammalian host cell, where the fusion proteins contain the Gal4 activation domain and the Gal4 DNA binding domain. Yang and Fearon's methods therefore detect interactions between two proteins that are not native to the host cell in which their binding is assayed. Yang and Fearon's methods do not detect binding between a test peptide and a cellular component *native* to a cell.

Further, the claimed methods are not obvious from the assays of Yang or Fearon because the Yang and Fearon methods require the use of two component signal-producing system: a first fusion protein containing a Gal4 DNA binding domain and the a second fusion protein containing a Gal4 activation domain. Neither of such fusion proteins is native to any cell, and both fusion proteins are required in order to perform Yang or Fearon's methods. Modifying one of the fusion proteins of Yang or Fearon so that it is native to a cell would destroy the detection system disclosed in these references. In other words, the methods of Yang and Fearon will not work in detecting an interaction between proteins if the Gal4 activation or Gal4 binding domain is omitted from one of the proteins to produce a native protein.

Accordingly, Yang and Fearon are deficient in that they each fail to teach or suggest a method involving screening for a cell exhibiting an altered phenotype due to an interaction between a test peptide and a cellular component *native* to the cell.

Rayner and Gonda are cited solely to provide a retroviral vector cDNA library and an N-terminal glycine, respectively, and fail to cure the deficiencies of Yang and Fearon discussed above. Accordingly, Yang, Fearon, Rayner and Gonda, either alone or in any combination, fail to teach or suggest detection of an altered phenotype that is due to an interaction between a test peptide and a cellular component *native* to a cell as required by the claimed method.

Accordingly, withdrawal of this rejection is respectively requested.

Claims 21-23 are rejected under 35 U.S.C. § 103(a) as unpatentable over Yang in view of Fearon, Rayner and Kaufmann. Specifically, the Office asserts that Yang's random peptide two hybrid methods in yeast, in combination with Fearon's two-hybrid system in a mammalian cell, Rayner's retroviral vector cDNA library and Kaufmann's cell survival methods, render claims 21-23 unpatentable. This rejection is respectfully traversed as applied and as it may be applied to the amended claims.

As discussed above, Yang and Fearon either alone or in combination fail to teach or suggest a method involving detecting an interaction between a test peptide and a cellular component native to a cell. Also as discussed above, since Yang and Fearon's methods each require a two component signaling system which cannot be readily modified to detect interactions between a test peptide and an native cellular component. Also as discussed above, Rayner does not cure the deficiencies of Yang and Fearon.

Kaufmann is cited solely to provide a method of detection of cell survival. Kaufmann's cell survival method fails to cure the deficiencies of Yang, Fearon and Rayner. Accordingly, Yang, Fearon, Rayner and Kaufmann, either alone or in any combination, fail to teach or suggest detection of an altered phenotype that is due to an interaction between a test peptide and a cellular component *native* to a cell.

Withdrawal of this rejection is respectfully requested.

Claims 24 and 25 are rejected under 35 U.S.C. § 103(a) as unpatentable over Yang in view of Fearon, Rayner, Kaufmann and Abbas. Specifically, the Office asserts that Yang's random peptide two hybrid methods in yeast, in combination with Fearon's two-hybrid methods in a mammalian cell, Rayner's retroviral vector cDNA library, Kaufmann's cell survival methods and Abbas' methods of detecting cell differentiation render claims 24 and 25 unpatentable. This rejection is traversed as applied and as it may be applied to the amended claims.

As discussed above, Yang and Fearon fail to teach or suggest a method involving detecting an interaction between a test peptide and a cellular component native to a cell. Also as discussed above, Yang and Fearon's cannot be readily modified to detect interactions between a test peptide and an native cellular component. Also as discussed above, Rayner and Kaufmann fail to cure these deficiencies of Yang and Fearon.

Abbas is cited solely to provide methods of detecting cell differentiation. Abbas fails to cure the deficiencies of Yang, Fearon, Rayner and Kaufmann. Accordingly, Yang, Fearon, Rayner, Kaufmann and Abbas, either alone or in any combination, fail to teach or suggest detection of an altered phenotype that is due to an interaction between a test peptide and a cellular component *native* to a cell.

Withdrawal of this rejection is respectfully requested.

Obviousness-type double patenting rejections

The claims of the instant application are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims of U.S. Patent 6,153,380, and co-pending applications 09/919,635, 09/918,601, 09/916,940 and 08/589,911.

Without wishing to acquiesce to the correctness of this rejection, Terminal Disclaimers over 6,153,380, 09/916,940 09/919,635, 09/918,601 and 08/589,911 are filed herewith. The Terminal Disclaimers filed herewith supercede the Terminal Disclaimers filed on April 5, 2004.

Applicants note that two terminal disclaimers papers are filed herewith: one for 6,153,380 and the other for 09/916,940 09/919,635, 09/918,601 and 08/589,911.

Withdrawal of this rejection is respectfully requested.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-0815, order number RIGL-005CON.

Respectfully submitted,
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Date: July 16, 2004

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Enclosures: a) IDS
b) Terminal disclosure over 6,153,380,
c) Terminal disclosure over 09/916,940 09/919,635, 09/918,601 and 08/589,911.

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